

REMARKS

Claims 1-19 stand rejected under 35 USC §102 (b) as being anticipated by Kontz (U.S. 4,418,837). Kontz is cited for disclosing a rotary member for denesting articles C including a profile 15 having a groove 17.

Claims 1-19 stand rejected under 35 USC §102(b) as being anticipated by Chung (U.S. 5,738,246). Chung is cited for its disclosure of a rotary member for denesting articles 20 including profile 15 having a groove formed between portions 151.

The foregoing rejections are respectfully traversed in view of the amendments to the claims set forth above and the comments which follow.

One of the problems that has plagued denesting apparatus and methods of the prior art is the trade-off between providing firm and uniform support of the descending stack of nested articles while still being able to positively strip the lowermost article from the stack. Because the nested cups and similar articles that are being handled are typically made of thin-walled plastics and are therefore quite flexible, minor misalignments during denesting often result in misfeeds. Misfeeds, in turn, are often the result of inadequate support of the stack, the inadequate support necessary in order to assure positive separation.

Both Kontz and Chung are characteristic of denesting apparatus in which there is inadequate support of the stack of descending nested articles. In Chung, the peripheral lip (12) of the lowermost cup C in the nested stack is supported tangentially on the curved shoulders (16) of four vertically disposed rotors (15). Thus, the stack of descending cups is supported at only four points comprising, at most, supporting contact along a few degrees of arc of the periphery of the lip (12). In between these points of support, the cups are free to flex and misalign.

Similarly, in Chung, the stack of descending cups (20) is supported on the narrow edge surfaces of the actuating plates (15). This also provides only a few degrees of circumferential support for the rims of the cups. Thus, the cups are much more easily misaligned and subject to misfeed or jamming.

In applicants' apparatus and method, the descending stack of cups is supported by engagement of the rim 28 of the bottom cup 15 on the curved profile

surface portion 31 subtending an arc of at least about 90° and, in the preferred embodiment, 180° of the circumference of the cup rim. This positive and extensive support is far superior to the few degrees of support provided by either Kontz or Chung.

Each of remaining independent claims 3, 5, 12 and 17 has been amended to recite this important feature.

In addition, neither Kontz nor Chung utilizes pairs of counterrotating parallel shafts in which the cup-supporting curved surface portions 31 are formed. This feature has also been added to claim 3. In addition, the grooves 30 which are formed in and interrupt the surface portions 31 extend essentially the full length of the surface portion 31 and, therefore, leading and trailing faces 32 and 33, respectively, of the grooves are also capable of receiving (leading face) and engaging (trailing face) the rim of the cup along at least about 90° of the rim circumference. This also assures positive and more reliable denesting. This feature is the subject matter of amended claim 9 and new claim 20.

New claim 21 is directed to the supplemental stack support feature provided by the product guiding bores 62 and shaft supporting bores in the modular blocks 60 of Figs. 13-15. New claim 22 is directed to the multi-station arrangement of Fig. 13.

Claims 1 and 2 have been cancelled.

Amended claims 3-19 and new claim 20 are now believed to be in condition for allowance and further favorable action is respectfully requested.

Respectfully submitted,

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